

Title (en)

Solder bump input/output pad for a surface mount circuit device

Title (de)

Löthöcker Ein-/Ausgabefläche für oberflächenmontierte Schaltungsanordnung

Title (fr)

Bosses de soudure de plages d'entrée/sortie pour dispositif de circuit à montage en surface

Publication

EP 0918355 A3 20010425 (EN)

Application

EP 98203298 A 19980929

Priority

US 97752597 A 19971124

Abstract (en)

[origin: EP0918355A2] A surface mount circuit device (110), such as a flip chip, of the type which is attached to a conductor pattern (126) with solder bump connections (120). The solder bump connections (120) are formed by reflowing solder on shaped input/output pads (112) on the device (110), with the shape of the pads (112) being tailored to favorably affect optimal distribution, shape and height of the solder bump connections (120) following reflow soldering of the device (110) to the conductor pattern (126). The solder bump connections (120) are preferably characterized by a shape that increases the stand-off height of the device (110). The shaped solder bump connections (120) also promote stress relief during thermal cycling, improve mechanical bonding, allow better penetration of cleaning solutions, and improve flow of encapsulation materials between the device (110) and its substrate (122). <IMAGE>

IPC 1-7

H01L 23/485

IPC 8 full level

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CPC (source: EP US)

H01L 24/10 (2013.01 - EP US); **H01L 24/13** (2013.01 - EP US); **H05K 3/3436** (2013.01 - EP US); **H01L 2224/05124** (2013.01 - EP); **H01L 2224/05155** (2013.01 - EP); **H01L 2224/05644** (2013.01 - EP); **H01L 2224/05647** (2013.01 - EP); **H01L 2224/06135** (2013.01 - EP); **H01L 2224/13** (2013.01 - EP US); **H01L 2224/13099** (2013.01 - EP US); **H01L 2924/01004** (2013.01 - EP US); **H01L 2924/01013** (2013.01 - EP US); **H01L 2924/01023** (2013.01 - EP US); **H01L 2924/01029** (2013.01 - EP US); **H01L 2924/01033** (2013.01 - EP US); **H01L 2924/01079** (2013.01 - EP US); **H01L 2924/01082** (2013.01 - EP US); **H01L 2924/014** (2013.01 - EP US); **H01L 2924/14** (2013.01 - EP US); **H01L 2924/15787** (2013.01 - EP US); **H05K 2201/09381** (2013.01 - EP US); **H05K 2201/097** (2013.01 - EP US); **H05K 2203/0465** (2013.01 - EP US); **Y02P 70/50** (2015.11 - EP US)

Citation (search report)

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- [Y] US 5547740 A 19960820 - HIGDON WILLIAM D [US], et al
- [X] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 03 27 February 1998 (1998-02-27)
- [XY] PATENT ABSTRACTS OF JAPAN vol. 014, no. 175 (E - 0914) 6 April 1990 (1990-04-06)
- [X] PATENT ABSTRACTS OF JAPAN vol. 006, no. 087 (E - 108) 25 May 1982 (1982-05-25)
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DE102004046699A1; WO2005039261A3

Designated contracting state (EPC)

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